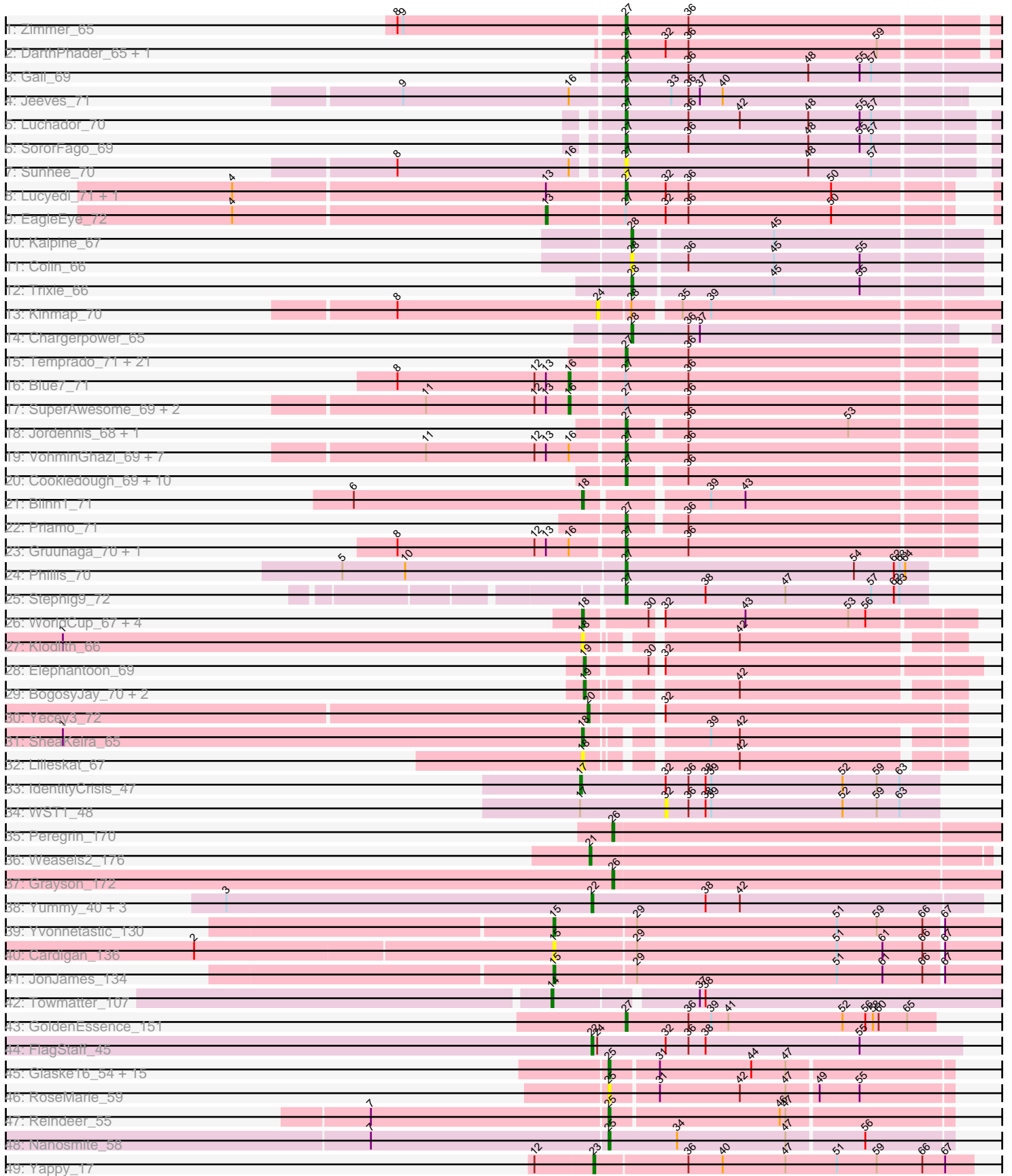


Pham 294562



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 294562 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294562 has 117 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Zimmer_65
- Track 2 : DarthPhader_65, Refuge_65
- Track 3 : Gail_69
- Track 4 : Jeeves_71
- Track 5 : Luchador_70
- Track 6 : SororFago_69
- Track 7 : Sunhee_70
- Track 8 : Lucyedi_71, PainterBoy_70
- Track 9 : EagleEye_72
- Track 10 : Kalpine_67
- Track 11 : Colin_66
- Track 12 : Trixie_66
- Track 13 : Kinmap_70
- Track 14 : Chargerpower_65
- Track 15 : Temprado_71, Rifter_70, Tucker_70, Jeffabunny_70, Hammer_70, Lilbunny_69, ToneTone_67, Artemis2UCLA_70, Zaka_70, Yokurt_69, WunderPhul_70, BlessJoy_70, Zulu_71, Gladiator_67, Hexamo_70, Wiks_69, CloudWang3_71, Koko_72, Garak_71, Helmet_72, BennyP_69, Indra_73
- Track 16 : Blue7_71
- Track 17 : SuperAwesome_69, Kazan_70, SmellyB_69
- Track 18 : Jordennis_68, BABullseye_62
- Track 19 : VohminGhazi_69, Hoot_64, Candra_67, GreedyLawyer_66, Polyphemos_71, Newrala_69, Kipper29_69, EricB_68
- Track 20 : Cookiedough_69, McFly_69, Isiphiwo_67, Neeharika16_68, DelvinSonDorr_66, SuperCallie99_66, Dorothea_69, Pmask_68, Chartreuse_68, DaVinci_67, JewelBug_69
- Track 21 : Blinn1_71
- Track 22 : Priamo_71
- Track 23 : Gruunaga_70, Roksolana_71
- Track 24 : Phillis_70
- Track 25 : Stephig9_72
- Track 26 : WorldCup_67, Bellris_67, CogOmlette_67, Minispark_67, Rahalelujah_69
- Track 27 : Klodlith_66
- Track 28 : Elephantoon_69
- Track 29 : BogosyJay_70, Maminiaina_70, LoneWolf_70
- Track 30 : Yecey3_72
- Track 31 : SheaKeira_65

- Track 32 : Lilleskat_67
- Track 33 : IdentityCrisis_47
- Track 34 : WST1_48
- Track 35 : Peregrin_170
- Track 36 : Weasels2_176
- Track 37 : Grayson_172
- Track 38 : Yummy_40, Buttrmldreams_40, MScarn_41, Horseradish_40
- Track 39 : Yvonnestic_130
- Track 40 : Cardigan_136
- Track 41 : JonJames_134
- Track 42 : Towmatter_107
- Track 43 : GoldenEssence_151
- Track 44 : FlagStaff_45
- Track 45 : Glaske16_54, LilhomieP_52, Diminimus_54, KleverKiS_54, PegLeg_53, TyDawg_53, Bongo_53, Skinny_54, SlimJimmy_52, FreakyGoo_54, Bricole_53, Dulcita_54, Auspice_53, TpudiCK_55, IPHane7_53, Izel_54
- Track 46 : RoseMarie_59
- Track 47 : Reindeer_55
- Track 48 : Nanosmite_58
- Track 49 : Yappy_17

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 27, it was called in 54 of the 99 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artemis2UCLA_70, BABullseye_62, BennyP_69, BlessJoy_70, Candra_67, Chartreuse_68, CloudWang3_71, Cookiedough_69, DaVinci_67, DarthPhader_65, DelvinSonDorr_66, Dorothea_69, EricB_68, Gail_69, Garak_71, Gladiator_67, GoldenEssence_151, GreedyLawyer_66, Gruunaga_70, Hammer_70, Helmet_72, Hexamo_70, Hoot_64, Indra_73, Isiphiwo_67, Jeeves_71, Jeffabunny_70, JewelBug_69, Jordennis_68, Kipper29_69, Koko_72, Lilbunny_69, Luchador_70, Lucyedi_71, McFly_69, Neeharika16_68, Newrala_69, PainterBoy_70, Phillis_70, Pmask_68, Polyphemus_71, Priamo_71, Refuge_65, Rifter_70, Roksolana_71, SororFago_69, Stephig9_72, Sunhee_70, SuperCallie99_66, Temprado_71, ToneTone_67, Tucker_70, VohminGhazi_69, Wiks_69, WunderPhul_70, Yokurt_69, Zaka_70, Zimmer_65, Zulu_71,

Genes that have the "Most Annotated" start but do not call it:

- Blue7_71, EagleEye_72, Kazan_70, SmellyB_69, SuperAwesome_69,

Genes that do not have the "Most Annotated" start:

- Auspice_53, Bellris_67, Blinn1_71, BogosyJay_70, Bongo_53, Bricole_53, Buttrmldreams_40, Cardigan_136, Chargerpower_65, CogOmlette_67, Colin_66, Diminimus_54, Dulcita_54, Elephantoon_69, FlagStaff_45, FreakyGoo_54, Glaske16_54, Grayson_172, Horseradish_40, IPHane7_53, IdentityCrisis_47, Izel_54, JonJames_134, Kalpine_67, Kinmap_70, KleverKiS_54, Klodlith_66, LilhomieP_52, Lilleskat_67, LoneWolf_70, MScarn_41, Maminiaina_70, Minispark_67, Nanosmite_58, PegLeg_53, Peregrin_170, Rahalelujah_69, Reindeer_55,

RoseMarie_59, SheaKeira_65, Skinny_54, SlimJimmy_52, Towmatter_107, TpudiCK_55, Trixie_66, TyDawg_53, WST1_48, Weasels2_176, WorldCup_67, Yappy_17, Yecey3_72, Yummy_40, Yvonnetastic_130,

Summary by start number:

Start 13:

- Found in 17 of 117 (14.5%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 5.9% of time when present
- Phage (with cluster) where this start called: EagleEye_72 (A16),

Start 14:

- Found in 1 of 117 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Towmatter_107 (DL),

Start 15:

- Found in 3 of 117 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan_136 (DD), JonJames_134 (DD), Yvonnetastic_130 (DD),

Start 16:

- Found in 16 of 117 (13.7%) of genes in pham
- Manual Annotations of this start: 4 of 99
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Blue7_71 (A6), Kazan_70 (A6), SmellyB_69 (A6), SuperAwesome_69 (A6),

Start 17:

- Found in 2 of 117 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 50.0% of time when present
- Phage (with cluster) where this start called: IdentityCrisis_47 (AJ),

Start 18:

- Found in 9 of 117 (7.7%) of genes in pham
- Manual Annotations of this start: 3 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellris_67 (A9), Blinn1_71 (A6), CogOmlette_67 (A9), Klodlith_66 (A9), Lilleskat_67 (A9), Minispark_67 (A9), Rahalelujah_69 (A9), SheaKeira_65 (A9), WorldCup_67 (A9),

Start 19:

- Found in 4 of 117 (3.4%) of genes in pham
- Manual Annotations of this start: 4 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BogosyJay_70 (A9), Elephantoon_69 (A9), LoneWolf_70 (A9), Maminiaina_70 (A9),

Start 20:

- Found in 1 of 117 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yecey3_72 (A9),

Start 21:

- Found in 1 of 117 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weasels2_176 (CB),

Start 22:

- Found in 5 of 117 (4.3%) of genes in pham
- Manual Annotations of this start: 5 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Buttrmilkdreams_40 (CT), FlagStaff_45 (G2), Horseradish_40 (CT), MScarn_41 (CT), Yummy_40 (CT),

Start 23:

- Found in 1 of 117 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy_17 (singleton),

Start 24:

- Found in 2 of 117 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kinmap_70 (A21),

Start 25:

- Found in 19 of 117 (16.2%) of genes in pham
- Manual Annotations of this start: 16 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auspice_53 (M1), Bongo_53 (M1), Bricole_53 (M1), Diminimus_54 (M1), Dulcita_54 (M1), FreakyGoo_54 (M1), Glaske16_54 (M1), IPhane7_53 (M1), Izel_54 (M1), KleverKiS_54 (M1), LilhomieP_52 (M1), Nanosmite_58 (M3), PegLeg_53 (M1), Reindeer_55 (M1), RoseMarie_59 (M1), Skinny_54 (M1), SlimJimmy_52 (M1), TpudiCK_55 (M1), TyDawg_53 (M1),

Start 26:

- Found in 2 of 117 (1.7%) of genes in pham
- Manual Annotations of this start: 2 of 99
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson_172 (CB), Peregrin_170 (CB),

Start 27:

- Found in 64 of 117 (54.7%) of genes in pham
- Manual Annotations of this start: 54 of 99
- Called 92.2% of time when present

- Phage (with cluster) where this start called: Artemis2UCLA_70 (A6), BABullseye_62 (A6), BennyP_69 (A6), BlessJoy_70 (A6), Candra_67 (A6), Chartreuse_68 (A6), CloudWang3_71 (A6), Cookiedough_69 (A6), DaVinci_67 (A6), DarthPhader_65 (A12), DelvinSonDorr_66 (A6), Dorothea_69 (A6), EricB_68 (A6), Gail_69 (A14), Garak_71 (A6), Gladiator_67 (A6), GoldenEssence_151 (FC), GreedyLawyer_66 (A6), Gruunaga_70 (A6), Hammer_70 (A6), Helmet_72 (A6), Hexamo_70 (A6), Hoot_64 (A6), Indra_73 (A6), Isiphiwo_67 (A6), Jeeves_71 (A14), Jeffabunny_70 (A6), JewelBug_69 (A6), Jordennis_68 (A6), Kipper29_69 (A6), Koko_72 (A6), Lilbunny_69 (A6), Luchador_70 (A14), Lucyedi_71 (A16), McFly_69 (A6), Neeharika16_68 (A6), Newrala_69 (A6), PainterBoy_70 (A16), Phillis_70 (A8), Pmask_68 (A6), Polyphemus_71 (A6), Priamo_71 (A6), Refuge_65 (A12), Rifter_70 (A6), Roksolana_71 (A6), SororFago_69 (A14), Stephig9_72 (A8), Sunhee_70 (A14), SuperCallie99_66 (A6), Temprado_71 (A6), ToneTone_67 (A6), Tucker_70 (A6), VohminGhazi_69 (A6), Wiks_69 (A6), WunderPhul_70 (A6), Yokurt_69 (A6), Zaka_70 (A6), Zimmer_65 (A12), Zulu_71 (A6),

Start 28:

- Found in 5 of 117 (4.3%) of genes in pham
- Manual Annotations of this start: 3 of 99
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Chargerpower_65 (A22), Colin_66 (A2), Kalpine_67 (A2), Trixie_66 (A2),

Start 32:

- Found in 15 of 117 (12.8%) of genes in pham
- No Manual Annotations of this start.
- Called 6.7% of time when present
- Phage (with cluster) where this start called: WST1_48 (AJ),

Summary by clusters:

There are 19 clusters represented in this pham: A14, A22, A16, G2, A12, FC, CB, DD, AJ, DL, A21, A2, M1, M3, A6, A9, A8, singleton, CT,

Info for manual annotations of cluster A12:

- Start number 27 was manually annotated 3 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 27 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 13 was manually annotated 1 time for cluster A16.
- Start number 27 was manually annotated 2 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 28 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A22:

- Start number 28 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A6:

- Start number 16 was manually annotated 4 times for cluster A6.

- Start number 18 was manually annotated 1 time for cluster A6.
- Start number 27 was manually annotated 42 times for cluster A6.

Info for manual annotations of cluster A8:

- Start number 27 was manually annotated 2 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 18 was manually annotated 2 times for cluster A9.
- Start number 19 was manually annotated 4 times for cluster A9.
- Start number 20 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AJ:

- Start number 17 was manually annotated 1 time for cluster AJ.

Info for manual annotations of cluster CB:

- Start number 21 was manually annotated 1 time for cluster CB.
- Start number 26 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster CT:

- Start number 22 was manually annotated 4 times for cluster CT.

Info for manual annotations of cluster DD:

- Start number 15 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:

- Start number 14 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster FC:

- Start number 27 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster G2:

- Start number 22 was manually annotated 1 time for cluster G2.

Info for manual annotations of cluster M1:

- Start number 25 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M3:

- Start number 25 was manually annotated 1 time for cluster M3.

Gene Information:

Gene: Artemis2UCLA_70 Start: 40238, Stop: 40059, Start Num: 27

Candidate Starts for Artemis2UCLA_70:

(Start: 27 @40238 has 54 MA's), (36, 40205),

Gene: Auspice_53 Start: 38208, Stop: 38381, Start Num: 25

Candidate Starts for Auspice_53:

(Start: 25 @38208 has 16 MA's), (31, 38232), (44, 38280), (47, 38298),

Gene: BABullseye_62 Start: 37899, Stop: 37726, Start Num: 27

Candidate Starts for BABullseye_62:

(Start: 27 @37899 has 54 MA's), (36, 37872), (53, 37788),

Gene: Bellris_67 Start: 41041, Stop: 40850, Start Num: 18

Candidate Starts for Bellris_67:

(Start: 18 @41041 has 3 MA's), (30, 41011), (32, 41008), (43, 40966), (53, 40912), (56, 40903),

Gene: BennyP_69 Start: 40308, Stop: 40129, Start Num: 27

Candidate Starts for BennyP_69:

(Start: 27 @40308 has 54 MA's), (36, 40275),

Gene: BlessJoy_70 Start: 40664, Stop: 40485, Start Num: 27

Candidate Starts for BlessJoy_70:

(Start: 27 @40664 has 54 MA's), (36, 40631),

Gene: Blinn1_71 Start: 39967, Stop: 39776, Start Num: 18

Candidate Starts for Blinn1_71:

(6, 40087), (Start: 18 @39967 has 3 MA's), (39, 39910), (43, 39892),

Gene: Blue7_71 Start: 40393, Stop: 40187, Start Num: 16

Candidate Starts for Blue7_71:

(8, 40483), (12, 40411), (Start: 13 @40405 has 1 MA's), (Start: 16 @40393 has 4 MA's), (Start: 27 @40366 has 54 MA's), (36, 40333),

Gene: BogosyJay_70 Start: 41590, Stop: 41414, Start Num: 19

Candidate Starts for BogosyJay_70:

(Start: 19 @41590 has 4 MA's), (42, 41524),

Gene: Bongo_53 Start: 38212, Stop: 38385, Start Num: 25

Candidate Starts for Bongo_53:

(Start: 25 @38212 has 16 MA's), (31, 38236), (44, 38284), (47, 38302),

Gene: Bricole_53 Start: 38194, Stop: 38367, Start Num: 25

Candidate Starts for Bricole_53:

(Start: 25 @38194 has 16 MA's), (31, 38218), (44, 38266), (47, 38284),

Gene: Buttrmlkdreams_40 Start: 27645, Stop: 27442, Start Num: 22

Candidate Starts for Buttrmlkdreams_40:

(3, 27837), (Start: 22 @27645 has 5 MA's), (38, 27585), (42, 27567),

Gene: Candra_67 Start: 40269, Stop: 40090, Start Num: 27

Candidate Starts for Candra_67:

(11, 40371), (12, 40314), (Start: 13 @40308 has 1 MA's), (Start: 16 @40296 has 4 MA's), (Start: 27 @40269 has 54 MA's), (36, 40236),

Gene: Cardigan_136 Start: 76837, Stop: 77085, Start Num: 15

Candidate Starts for Cardigan_136:

(2, 76651), (Start: 15 @76837 has 2 MA's), (29, 76879), (51, 76984), (61, 77008), (66, 77029), (67, 77038),

Gene: Chargerpower_65 Start: 39591, Stop: 39409, Start Num: 28

Candidate Starts for Chargerpower_65:

(Start: 28 @39591 has 3 MA's), (36, 39561), (37, 39555),

Gene: Chartreuse_68 Start: 39579, Stop: 39406, Start Num: 27

Candidate Starts for Chartreuse_68:

(Start: 27 @39579 has 54 MA's), (36, 39552),

Gene: CloudWang3_71 Start: 40750, Stop: 40571, Start Num: 27

Candidate Starts for CloudWang3_71:

(Start: 27 @40750 has 54 MA's), (36, 40717),

Gene: CogOmlette_67 Start: 41038, Stop: 40847, Start Num: 18

Candidate Starts for CogOmlette_67:

(Start: 18 @41038 has 3 MA's), (30, 41008), (32, 41005), (43, 40963), (53, 40909), (56, 40900),

Gene: Colin_66 Start: 42014, Stop: 41838, Start Num: 28

Candidate Starts for Colin_66:

(Start: 28 @42014 has 3 MA's), (36, 41987), (45, 41942), (55, 41897),

Gene: Cookiedough_69 Start: 40207, Stop: 40034, Start Num: 27

Candidate Starts for Cookiedough_69:

(Start: 27 @40207 has 54 MA's), (36, 40180),

Gene: DaVinci_67 Start: 39633, Stop: 39460, Start Num: 27

Candidate Starts for DaVinci_67:

(Start: 27 @39633 has 54 MA's), (36, 39606),

Gene: DarthPhader_65 Start: 42262, Stop: 42065, Start Num: 27

Candidate Starts for DarthPhader_65:

(Start: 27 @42262 has 54 MA's), (32, 42241), (36, 42229), (59, 42130),

Gene: DelvinSonDorr_66 Start: 40438, Stop: 40265, Start Num: 27

Candidate Starts for DelvinSonDorr_66:

(Start: 27 @40438 has 54 MA's), (36, 40411),

Gene: Diminimus_54 Start: 38207, Stop: 38380, Start Num: 25

Candidate Starts for Diminimus_54:

(Start: 25 @38207 has 16 MA's), (31, 38231), (44, 38279), (47, 38297),

Gene: Dorothea_69 Start: 40205, Stop: 40032, Start Num: 27

Candidate Starts for Dorothea_69:

(Start: 27 @40205 has 54 MA's), (36, 40178),

Gene: Dulcita_54 Start: 38208, Stop: 38381, Start Num: 25

Candidate Starts for Dulcita_54:

(Start: 25 @38208 has 16 MA's), (31, 38232), (44, 38280), (47, 38298),

Gene: EagleEye_72 Start: 41949, Stop: 41728, Start Num: 13

Candidate Starts for EagleEye_72:

(4, 42111), (Start: 13 @41949 has 1 MA's), (Start: 27 @41910 has 54 MA's), (32, 41889), (36, 41877), (50, 41802),

Gene: Elephantoon_69 Start: 40932, Stop: 40738, Start Num: 19

Candidate Starts for Elephantoon_69:

(Start: 19 @40932 has 4 MA's), (30, 40902), (32, 40899),

Gene: EricB_68 Start: 40226, Stop: 40047, Start Num: 27
Candidate Starts for EricB_68:
(11, 40328), (12, 40271), (Start: 13 @40265 has 1 MA's), (Start: 16 @40253 has 4 MA's), (Start: 27 @40226 has 54 MA's), (36, 40193),

Gene: FlagStaff_45 Start: 36055, Stop: 36249, Start Num: 22
Candidate Starts for FlagStaff_45:
(Start: 22 @36055 has 5 MA's), (24, 36058), (32, 36094), (36, 36106), (38, 36115), (55, 36196),

Gene: FreakyGoo_54 Start: 38208, Stop: 38381, Start Num: 25
Candidate Starts for FreakyGoo_54:
(Start: 25 @38208 has 16 MA's), (31, 38232), (44, 38280), (47, 38298),

Gene: Gail_69 Start: 42059, Stop: 41856, Start Num: 27
Candidate Starts for Gail_69:
(Start: 27 @42059 has 54 MA's), (36, 42026), (48, 41963), (55, 41936), (57, 41930),

Gene: Garak_71 Start: 40605, Stop: 40426, Start Num: 27
Candidate Starts for Garak_71:
(Start: 27 @40605 has 54 MA's), (36, 40572),

Gene: Gladiator_67 Start: 39830, Stop: 39651, Start Num: 27
Candidate Starts for Gladiator_67:
(Start: 27 @39830 has 54 MA's), (36, 39797),

Gene: Glaske16_54 Start: 38207, Stop: 38380, Start Num: 25
Candidate Starts for Glaske16_54:
(Start: 25 @38207 has 16 MA's), (31, 38231), (44, 38279), (47, 38297),

Gene: GoldenEssence_151 Start: 104838, Stop: 104999, Start Num: 27
Candidate Starts for GoldenEssence_151:
(Start: 27 @104838 has 54 MA's), (36, 104871), (39, 104883), (41, 104892), (52, 104952), (56, 104964), (58, 104967), (60, 104970), (65, 104985),

Gene: Grayson_172 Start: 92452, Stop: 92664, Start Num: 26
Candidate Starts for Grayson_172:
(Start: 26 @92452 has 2 MA's),

Gene: GreedyLawyer_66 Start: 40199, Stop: 40020, Start Num: 27
Candidate Starts for GreedyLawyer_66:
(11, 40301), (12, 40244), (Start: 13 @40238 has 1 MA's), (Start: 16 @40226 has 4 MA's), (Start: 27 @40199 has 54 MA's), (36, 40166),

Gene: Gruunaga_70 Start: 40563, Stop: 40384, Start Num: 27
Candidate Starts for Gruunaga_70:
(8, 40680), (12, 40608), (Start: 13 @40602 has 1 MA's), (Start: 16 @40590 has 4 MA's), (Start: 27 @40563 has 54 MA's), (36, 40530),

Gene: Hammer_70 Start: 40170, Stop: 39991, Start Num: 27
Candidate Starts for Hammer_70:
(Start: 27 @40170 has 54 MA's), (36, 40137),

Gene: Helmet_72 Start: 40605, Stop: 40426, Start Num: 27

Candidate Starts for Helmet_72:
(Start: 27 @40605 has 54 MA's), (36, 40572),

Gene: Hexamo_70 Start: 40235, Stop: 40056, Start Num: 27
Candidate Starts for Hexamo_70:
(Start: 27 @40235 has 54 MA's), (36, 40202),

Gene: Hoot_64 Start: 38084, Stop: 37905, Start Num: 27
Candidate Starts for Hoot_64:
(11, 38186), (12, 38129), (Start: 13 @38123 has 1 MA's), (Start: 16 @38111 has 4 MA's), (Start: 27 @38084 has 54 MA's), (36, 38051),

Gene: Horseradish_40 Start: 27173, Stop: 26970, Start Num: 22
Candidate Starts for Horseradish_40:
(3, 27365), (Start: 22 @27173 has 5 MA's), (38, 27113), (42, 27095),

Gene: IPhone7_53 Start: 38212, Stop: 38385, Start Num: 25
Candidate Starts for IPhone7_53:
(Start: 25 @38212 has 16 MA's), (31, 38236), (44, 38284), (47, 38302),

Gene: IdentityCrisis_47 Start: 31026, Stop: 31214, Start Num: 17
Candidate Starts for IdentityCrisis_47:
(Start: 17 @31026 has 1 MA's), (32, 31071), (36, 31083), (38, 31092), (39, 31095), (52, 31164), (59, 31182), (63, 31194),

Gene: Indra_73 Start: 40606, Stop: 40427, Start Num: 27
Candidate Starts for Indra_73:
(Start: 27 @40606 has 54 MA's), (36, 40573),

Gene: Isiphiwo_67 Start: 39765, Stop: 39586, Start Num: 27
Candidate Starts for Isiphiwo_67:
(Start: 27 @39765 has 54 MA's), (36, 39732),

Gene: Izel_54 Start: 38207, Stop: 38380, Start Num: 25
Candidate Starts for Izel_54:
(Start: 25 @38207 has 16 MA's), (31, 38231), (44, 38279), (47, 38297),

Gene: Jeeves_71 Start: 41042, Stop: 40869, Start Num: 27
Candidate Starts for Jeeves_71:
(9, 41156), (Start: 16 @41069 has 4 MA's), (Start: 27 @41042 has 54 MA's), (33, 41018), (36, 41009), (37, 41003), (40, 40991),

Gene: Jeffabunny_70 Start: 40232, Stop: 40053, Start Num: 27
Candidate Starts for Jeffabunny_70:
(Start: 27 @40232 has 54 MA's), (36, 40199),

Gene: JewelBug_69 Start: 40499, Stop: 40326, Start Num: 27
Candidate Starts for JewelBug_69:
(Start: 27 @40499 has 54 MA's), (36, 40472),

Gene: JonJames_134 Start: 77470, Stop: 77718, Start Num: 15
Candidate Starts for JonJames_134:
(Start: 15 @77470 has 2 MA's), (29, 77512), (51, 77617), (61, 77641), (66, 77662), (67, 77671),

Gene: Jordennis_68 Start: 39980, Stop: 39807, Start Num: 27
Candidate Starts for Jordennis_68:
(Start: 27 @39980 has 54 MA's), (36, 39953), (53, 39869),

Gene: Kalpine_67 Start: 42195, Stop: 42019, Start Num: 28
Candidate Starts for Kalpine_67:
(Start: 28 @42195 has 3 MA's), (45, 42123),

Gene: Kazan_70 Start: 40266, Stop: 40060, Start Num: 16
Candidate Starts for Kazan_70:
(11, 40341), (12, 40284), (Start: 13 @40278 has 1 MA's), (Start: 16 @40266 has 4 MA's), (Start: 27 @40239 has 54 MA's), (36, 40206),

Gene: Kinmap_70 Start: 40504, Stop: 40307, Start Num: 24
Candidate Starts for Kinmap_70:
(8, 40609), (24, 40504), (Start: 28 @40489 has 3 MA's), (35, 40468), (39, 40453),

Gene: Kipper29_69 Start: 40252, Stop: 40073, Start Num: 27
Candidate Starts for Kipper29_69:
(11, 40354), (12, 40297), (Start: 13 @40291 has 1 MA's), (Start: 16 @40279 has 4 MA's), (Start: 27 @40252 has 54 MA's), (36, 40219),

Gene: KleverKiS_54 Start: 38188, Stop: 38361, Start Num: 25
Candidate Starts for KleverKiS_54:
(Start: 25 @38188 has 16 MA's), (31, 38212), (44, 38260), (47, 38278),

Gene: Klodlith_66 Start: 40644, Stop: 40468, Start Num: 18
Candidate Starts for Klodlith_66:
(1, 40917), (Start: 18 @40644 has 3 MA's), (42, 40578),

Gene: Koko_72 Start: 41090, Stop: 40911, Start Num: 27
Candidate Starts for Koko_72:
(Start: 27 @41090 has 54 MA's), (36, 41057),

Gene: Lilbunny_69 Start: 40236, Stop: 40057, Start Num: 27
Candidate Starts for Lilbunny_69:
(Start: 27 @40236 has 54 MA's), (36, 40203),

Gene: LilhomieP_52 Start: 38212, Stop: 38385, Start Num: 25
Candidate Starts for LilhomieP_52:
(Start: 25 @38212 has 16 MA's), (31, 38236), (44, 38284), (47, 38302),

Gene: Lilleskat_67 Start: 41392, Stop: 41216, Start Num: 18
Candidate Starts for Lilleskat_67:
(Start: 18 @41392 has 3 MA's), (42, 41326),

Gene: LoneWolf_70 Start: 41439, Stop: 41263, Start Num: 19
Candidate Starts for LoneWolf_70:
(Start: 19 @41439 has 4 MA's), (42, 41373),

Gene: Luchador_70 Start: 42522, Stop: 42328, Start Num: 27
Candidate Starts for Luchador_70:

(Start: 27 @42522 has 54 MA's), (36, 42489), (42, 42462), (48, 42426), (55, 42399), (57, 42393),

Gene: Lucyedi_71 Start: 42106, Stop: 41924, Start Num: 27

Candidate Starts for Lucyedi_71:

(4, 42307), (Start: 13 @42145 has 1 MA's), (Start: 27 @42106 has 54 MA's), (32, 42085), (36, 42073), (50, 41998),

Gene: MScarn_41 Start: 27313, Stop: 27110, Start Num: 22

Candidate Starts for MScarn_41:

(3, 27505), (Start: 22 @27313 has 5 MA's), (38, 27253), (42, 27235),

Gene: Maminaiaina_70 Start: 41572, Stop: 41396, Start Num: 19

Candidate Starts for Maminaiaina_70:

(Start: 19 @41572 has 4 MA's), (42, 41506),

Gene: McFly_69 Start: 40192, Stop: 40019, Start Num: 27

Candidate Starts for McFly_69:

(Start: 27 @40192 has 54 MA's), (36, 40165),

Gene: Minispark_67 Start: 41035, Stop: 40844, Start Num: 18

Candidate Starts for Minispark_67:

(Start: 18 @41035 has 3 MA's), (30, 41005), (32, 41002), (43, 40960), (53, 40906), (56, 40897),

Gene: Nanosmite_58 Start: 39866, Stop: 40042, Start Num: 25

Candidate Starts for Nanosmite_58:

(7, 39743), (Start: 25 @39866 has 16 MA's), (34, 39902), (47, 39959), (56, 39998),

Gene: Neeharika16_68 Start: 39659, Stop: 39486, Start Num: 27

Candidate Starts for Neeharika16_68:

(Start: 27 @39659 has 54 MA's), (36, 39632),

Gene: Newrala_69 Start: 40200, Stop: 40021, Start Num: 27

Candidate Starts for Newrala_69:

(11, 40302), (12, 40245), (Start: 13 @40239 has 1 MA's), (Start: 16 @40227 has 4 MA's), (Start: 27 @40200 has 54 MA's), (36, 40167),

Gene: PainterBoy_70 Start: 41815, Stop: 41633, Start Num: 27

Candidate Starts for PainterBoy_70:

(4, 42016), (Start: 13 @41854 has 1 MA's), (Start: 27 @41815 has 54 MA's), (32, 41794), (36, 41782), (50, 41707),

Gene: PegLeg_53 Start: 38211, Stop: 38384, Start Num: 25

Candidate Starts for PegLeg_53:

(Start: 25 @38211 has 16 MA's), (31, 38235), (44, 38283), (47, 38301),

Gene: Peregrin_170 Start: 91883, Stop: 92095, Start Num: 26

Candidate Starts for Peregrin_170:

(Start: 26 @91883 has 2 MA's),

Gene: Phillis_70 Start: 40207, Stop: 40049, Start Num: 27

Candidate Starts for Phillis_70:

(5, 40354), (10, 40321), (Start: 27 @40207 has 54 MA's), (54, 40087), (62, 40066), (63, 40063), (64, 40060),

Gene: Pmask_68 Start: 40195, Stop: 40022, Start Num: 27

Candidate Starts for Pmask_68:

(Start: 27 @40195 has 54 MA's), (36, 40168),

Gene: Polyphemus_71 Start: 40586, Stop: 40407, Start Num: 27

Candidate Starts for Polyphemus_71:

(11, 40688), (12, 40631), (Start: 13 @40625 has 1 MA's), (Start: 16 @40613 has 4 MA's), (Start: 27 @40586 has 54 MA's), (36, 40553),

Gene: Priamo_71 Start: 40046, Stop: 39873, Start Num: 27

Candidate Starts for Priamo_71:

(Start: 27 @40046 has 54 MA's), (36, 40019),

Gene: Rahalelujah_69 Start: 41050, Stop: 40859, Start Num: 18

Candidate Starts for Rahalelujah_69:

(Start: 18 @41050 has 3 MA's), (30, 41020), (32, 41017), (43, 40975), (53, 40921), (56, 40912),

Gene: Refuge_65 Start: 42312, Stop: 42115, Start Num: 27

Candidate Starts for Refuge_65:

(Start: 27 @42312 has 54 MA's), (32, 42291), (36, 42279), (59, 42180),

Gene: Reindeer_55 Start: 39414, Stop: 39587, Start Num: 25

Candidate Starts for Reindeer_55:

(7, 39291), (Start: 25 @39414 has 16 MA's), (46, 39501), (47, 39504),

Gene: Rifter_70 Start: 39766, Stop: 39587, Start Num: 27

Candidate Starts for Rifter_70:

(Start: 27 @39766 has 54 MA's), (36, 39733),

Gene: Roksolana_71 Start: 40600, Stop: 40421, Start Num: 27

Candidate Starts for Roksolana_71:

(8, 40717), (12, 40645), (Start: 13 @40639 has 1 MA's), (Start: 16 @40627 has 4 MA's), (Start: 27 @40600 has 54 MA's), (36, 40567),

Gene: RoseMarie_59 Start: 41858, Stop: 42031, Start Num: 25

Candidate Starts for RoseMarie_59:

(Start: 25 @41858 has 16 MA's), (31, 41882), (42, 41924), (47, 41948), (49, 41963), (55, 41984),

Gene: SheaKeira_65 Start: 40520, Stop: 40344, Start Num: 18

Candidate Starts for SheaKeira_65:

(1, 40793), (Start: 18 @40520 has 3 MA's), (39, 40469), (42, 40454),

Gene: Skinny_54 Start: 38641, Stop: 38814, Start Num: 25

Candidate Starts for Skinny_54:

(Start: 25 @38641 has 16 MA's), (31, 38665), (44, 38713), (47, 38731),

Gene: SlimJimmy_52 Start: 38195, Stop: 38368, Start Num: 25

Candidate Starts for SlimJimmy_52:

(Start: 25 @38195 has 16 MA's), (31, 38219), (44, 38267), (47, 38285),

Gene: SmellyB_69 Start: 40260, Stop: 40054, Start Num: 16

Candidate Starts for SmellyB_69:

(11, 40335), (12, 40278), (Start: 13 @40272 has 1 MA's), (Start: 16 @40260 has 4 MA's), (Start: 27 @40233 has 54 MA's), (36, 40200),

Gene: SororFago_69 Start: 42242, Stop: 42048, Start Num: 27

Candidate Starts for SororFago_69:

(Start: 27 @42242 has 54 MA's), (36, 42209), (48, 42146), (55, 42119), (57, 42113),

Gene: Stephig9_72 Start: 40770, Stop: 40612, Start Num: 27

Candidate Starts for Stephig9_72:

(Start: 27 @40770 has 54 MA's), (38, 40728), (47, 40686), (57, 40641), (62, 40629), (63, 40626),

Gene: Sunhee_70 Start: 40582, Stop: 40388, Start Num: 27

Candidate Starts for Sunhee_70:

(8, 40693), (Start: 16 @40603 has 4 MA's), (Start: 27 @40582 has 54 MA's), (48, 40486), (57, 40453),

Gene: SuperAwesome_69 Start: 40265, Stop: 40059, Start Num: 16

Candidate Starts for SuperAwesome_69:

(11, 40340), (12, 40283), (Start: 13 @40277 has 1 MA's), (Start: 16 @40265 has 4 MA's), (Start: 27 @40238 has 54 MA's), (36, 40205),

Gene: SuperCallie99_66 Start: 40079, Stop: 39906, Start Num: 27

Candidate Starts for SuperCallie99_66:

(Start: 27 @40079 has 54 MA's), (36, 40052),

Gene: Temprado_71 Start: 40605, Stop: 40426, Start Num: 27

Candidate Starts for Temprado_71:

(Start: 27 @40605 has 54 MA's), (36, 40572),

Gene: ToneTone_67 Start: 40165, Stop: 39986, Start Num: 27

Candidate Starts for ToneTone_67:

(Start: 27 @40165 has 54 MA's), (36, 40132),

Gene: Towmatter_107 Start: 68561, Stop: 68797, Start Num: 14

Candidate Starts for Towmatter_107:

(Start: 14 @68561 has 1 MA's), (37, 68630), (38, 68633),

Gene: TpudiCK_55 Start: 38211, Stop: 38384, Start Num: 25

Candidate Starts for TpudiCK_55:

(Start: 25 @38211 has 16 MA's), (31, 38235), (44, 38283), (47, 38301),

Gene: Trixie_66 Start: 41830, Stop: 41654, Start Num: 28

Candidate Starts for Trixie_66:

(Start: 28 @41830 has 3 MA's), (45, 41758), (55, 41713),

Gene: Tucker_70 Start: 40368, Stop: 40189, Start Num: 27

Candidate Starts for Tucker_70:

(Start: 27 @40368 has 54 MA's), (36, 40335),

Gene: TyDawg_53 Start: 38212, Stop: 38385, Start Num: 25

Candidate Starts for TyDawg_53:

(Start: 25 @38212 has 16 MA's), (31, 38236), (44, 38284), (47, 38302),

Gene: VohminGhazi_69 Start: 40234, Stop: 40055, Start Num: 27

Candidate Starts for VohminGhazi_69:

(11, 40336), (12, 40279), (Start: 13 @40273 has 1 MA's), (Start: 16 @40261 has 4 MA's), (Start: 27 @40234 has 54 MA's), (36, 40201),

Gene: WST1_48 Start: 30928, Stop: 31071, Start Num: 32

Candidate Starts for WST1_48:

(Start: 17 @30883 has 1 MA's), (32, 30928), (36, 30940), (38, 30949), (39, 30952), (52, 31021), (59, 31039), (63, 31051),

Gene: Weasels2_176 Start: 96304, Stop: 96510, Start Num: 21

Candidate Starts for Weasels2_176:

(Start: 21 @96304 has 1 MA's),

Gene: Wiks_69 Start: 40236, Stop: 40057, Start Num: 27

Candidate Starts for Wiks_69:

(Start: 27 @40236 has 54 MA's), (36, 40203),

Gene: WorldCup_67 Start: 41044, Stop: 40853, Start Num: 18

Candidate Starts for WorldCup_67:

(Start: 18 @41044 has 3 MA's), (30, 41014), (32, 41011), (43, 40969), (53, 40915), (56, 40906),

Gene: WunderPhul_70 Start: 40234, Stop: 40055, Start Num: 27

Candidate Starts for WunderPhul_70:

(Start: 27 @40234 has 54 MA's), (36, 40201),

Gene: Yappy_17 Start: 5650, Stop: 5847, Start Num: 23

Candidate Starts for Yappy_17:

(12, 5620), (Start: 23 @5650 has 1 MA's), (36, 5698), (40, 5716), (47, 5749), (51, 5776), (59, 5797), (66, 5821), (67, 5833),

Gene: Yecey3_72 Start: 41315, Stop: 41127, Start Num: 20

Candidate Starts for Yecey3_72:

(Start: 20 @41315 has 1 MA's), (32, 41282),

Gene: Yokurt_69 Start: 40236, Stop: 40057, Start Num: 27

Candidate Starts for Yokurt_69:

(Start: 27 @40236 has 54 MA's), (36, 40203),

Gene: Yummy_40 Start: 27287, Stop: 27084, Start Num: 22

Candidate Starts for Yummy_40:

(3, 27479), (Start: 22 @27287 has 5 MA's), (38, 27227), (42, 27209),

Gene: Yvonnetastic_130 Start: 73750, Stop: 73998, Start Num: 15

Candidate Starts for Yvonnetastic_130:

(Start: 15 @73750 has 2 MA's), (29, 73792), (51, 73897), (59, 73918), (66, 73942), (67, 73951),

Gene: Zaka_70 Start: 40236, Stop: 40057, Start Num: 27

Candidate Starts for Zaka_70:

(Start: 27 @40236 has 54 MA's), (36, 40203),

Gene: Zimmer_65 Start: 42012, Stop: 41815, Start Num: 27

Candidate Starts for Zimmer_65:

(8, 42129), (9, 42126), (Start: 27 @42012 has 54 MA's), (36, 41979),

Gene: Zulu_71 Start: 40614, Stop: 40435, Start Num: 27
Candidate Starts for Zulu_71:
(Start: 27 @40614 has 54 MA's), (36, 40581),